REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance. The present amendment is being made to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 13, 19, 25, 26, 28-33, 35-37, 40-43, 49-54 and 56-62 are currently pending. Claims 13, 25, 28, 37, 49 and 53 are independent. Claims 13, 25, 28-33, 35-37, 40-43, 49, 50, 53 and 56 are hereby amended. Claims 59-62 are new. No new matter has been introduced. Claims 1-12, 14-18, 20-24, 27, 34, 38, 39, 44-48 and 55 have been canceled, without prejudice or disclaimer of subject matter. Support for this amendment is provided throughout the Specification and Drawings, specifically on pages 15-17 and Fig. 9. Changes to claims are not made for the purpose of patentability within the meaning of 35 U.S.C. §101, §102, §103, or §112. Rather, these changes are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

II. REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 13, 25, 26, 28-36, 42, 43 and 50-58 were rejected under 35 U.S.C. §103(a), as allegedly unpatentable over U.S. Patent No. 5,440,300 to Spillman, Jr. (hereinafter, merely "Spillman") in view of U.S. Patent No. 4,684,929 to Edwards et al. (hereinafter, merely "Edwards"). Applicants respectfully traverse the above-described rejections for the following reasons.

Claim 13 recites, *inter alia*:

"A wireless communication system...

communications means for communicating said modulated command signal between a controlling base unit and at least one of said number of actuators, which includes a substrate portion having non-linear material characteristics in order to transmit said modulated command signal." (emphasis added)

As understood by Applicants, Spillman relates to smart structures having embedded sensors and actuators which include active electronics to control and collect data from sensors and actuators. The active electronics transmit data to the exterior of a body by electromagnetic antenna radiation to a conformal power and data interrogation interface. Multiple embedded smart structures are powered and interrogated by a network of conformal powering and interrogation units.

As understood by Applicants, Edwards relates to a direction system wherein the spectra of microwave signals reflected from targeted reflectors and of locally detected seismic signals are compared with predetermined spectral signal patterns to detect the presence of a security threat. A voltage controlled oscillator generates a signal having a frequency that drives a transmitter to radiate a microwave signal where the output may be directionally steered toward the proper location of a reflector. A microstrip phased array of an antennae coordinates each of the reflectors in the direction of a directional transmitted beam.

Applicants submit that Spillman and Edwards, taken alone or in combination, fail to teach or suggest the above-identified features of claim 13. Specifically, Applicants submit that there is no teaching or suggestion of communicating said modulated command signal between a controlling base unit and at least one of said number of actuators, which includes a substrate portion having non-linear material characteristics in order to transmit said modulated

command signal, as recited in claim 13.

Furthermore, another aspect of the present invention, set forth in independent claim 13, is directed to the feature that material characteristics of the respective actuator or actuators cause said modulated command signal to be demodulated without the use of any active electronic devices. The demodulation process utilizes a passive device and is without the need for any additional electronic components. This would allow the realization of a single passive device without any additional electronics.

Applicants submit that Spillman and Edwards, taken alone or in combination, fail to teach or suggest the above-identified features of claim 13. The Examiner states on page 4 of the Office Action, that Col. 4, lines 12-16 of Spillman describes an alternative embodiment that demodulates a command signal without any active electronic devices. Applicants respectfully traverse this rejection because passive electronic devices are not disclosed in Spillman. Pages 3-4 of the Office Action refer to Col. 5, lines 7-16 of Spillman, which clearly states "...RF coupling connected to data/power bus cable". The Examiner reads the RF coupling as the control transceiver means; therefore, active electronic devices are disclosed in Spillman.

Therefore, Applicants submit that independent claim 13 is patentable.

For reasons similar to those described above with regard to independent claim 1, independent claims 25, 28, 37, 49 and 53 are also believed to be patentable.

Therefore, Applicants submit that independent claims 13, 25, 28, 37, 49 and 53 are patentable.

III. DEPENDENT CLAIMS

The other claims in this application are each dependent from the independent claim discussed above and are therefore believed patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

CONCLUSION

In the event the Examiner disagrees with any of statements appearing above with respect to the disclosures in the cited reference, or references, it is respectfully requested that the Examiner specifically indicate those portions of the reference, or references, providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

In view of the foregoing amendments and remarks, it is believed that all of the claims in this application are patentable and Applicants respectfully request early passage to issue of the present application.

Respectfully submitted,
FROMMER LAWRENCE & HAUG LLP
Attorneys for Applicants

By 
William S. Frommer
Reg. No. 25,506
(212) 588-0800